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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/913,578	11/06/2001	Yair Oren	20568-68741	4183
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46363                      7590                      02/15/2007  
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 SHREWSBURY, NJ 07702

EXAMINER
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WANG, QUAN ZHEN

ART UNIT	PAPER NUMBER
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2613

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS	02/15/2007	PAPER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 09/913,578	<b>Applicant(s)</b> OREN ET AL.	
	<b>Examiner</b> Quan-Zhen Wang	<b>Art Unit</b> 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on 03 January 2007.
- 2a)  This action is **FINAL**.
- 2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4)  Claim(s) 1-16 and 21-25 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-16 and 21-25 is/are rejected.
- 7)  Claim(s) \_\_\_\_\_ is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a)  All b)  Some \* c)  None of:
      - 1.  Certified copies of the priority documents have been received.
      - 2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      - 3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5)  Notice of Informal Patent Application
- 6)  Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1, 6, 9, 12-16, and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izumi (U.S. Patent US 6,466,348 B1) in view of Admitted Prior Art (page 15, lines 15-18) (APA) and further in view of Sato (U.S. Patent US 5,491,686).

Regarding claims 1 and 9, Izumi teaches a node (fig. 21) for processing upstream optical signal and downstream optical signal in a fiber optic communication network (fig. 1C), the node comprising: a first optical block (fig. 21, combination of elements 325, 315, 360, and 340, and related elements; and fig. 7, the detailed structure of a monitoring and controlling apparatus) adapted to receive control information included within upstream optical signal (fig. 21, supervisory signal from transmission line 301) at a first frequency and transmit control information within upstream optical signal (fig. 21, supervisory signal to transmission line 302) at the first frequency, and an add-drop module (fig. 21, ADM 360) to drop optical signals from the upstream optical signal and add optical signal to the upstream optical signal; a second optical block (fig. 21, combination of elements 326, 316, 391, and 341, and related elements) adapted to receive control information included within downstream optical

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signal (fig. 21, the supervisory signal from transmission line 304) at a first frequency and transmit control information within downstream optical (fig. 21, the supervisory signal to transmission line 303) signal at the first frequency, and an add-drop module (fig. 21, ADM 391) to drop optical signals from the downstream optical signal and add optical signal to the downstream optical signal; and a control device (fig. 21, monitoring and controlling signal transmitting and receiving circuit 315 and 316), for processing control information received by each of the first and second optical block and providing within a second information of each of the first and second optical block control information adapted for use by another node (column 18, lines 11-54). Izumi further discloses an example of a structure of a monitor and controlling apparatus (fig. 7), which can be used for both the first and second optical block, comprising a first device (fig. 7, O/E converter 183) for converting a first optical signal at a first frequency carried by the network into a first electrical signal, a second device (fig. 7, combination of element 185, 186, and 187) for demodulating from the first electrical signal first information modulated on the first optical signal; a third device (fig. 7, combination of elements 188, 189, 190) for modulating on a second electrical signal second information, a fourth device (fig. 7, E/O converter 184) for converting the second information modulated on the second electrical signal into a second optical signal at the first frequency. Izumi differs from the claimed invention in that Izumi does not specifically teach to combine channels of the first upstream optical signal with the channels of the first down stream optical signal to provide at least one valid copy of each channel in response to a fault that results in disruption of the control information. However, as it is admitted by Applicant, it is well

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known in the art to combine signals from different optical paths onto a common path "using his/her knowledge of SONET UPSR" (the instant specification, page 15, lines 13-18; and Remarks filed on May 23, 2006). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the signal combination method, as it is admitted by Applicant, in the system of Izumi in order to provide path protection. The modified system of Izumi and APA does not specifically disclose that the control device selects optical signal path based on a relative quality of the optical signals. However, it is well known in the art to select signal path based on signal quality. For example, Sato discloses to select the signal path having better signal quality (column 5, lines 1-5). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to select optical signal path based on a relative quality of the optical signals, as it is taught by Sato, in the modified system of Izumi and APA in order to provide high quality services.

Regarding claims 6, and 21-24, Izumi further teaches that a fiber optic network (fig. 1C) including the node (fig. 1C, node 118B) of claim 1 and further including a second node (fig. 1C, node 118C), the second node including a first device for converting a first optical signal at a first frequency (SV signal) carried by the network into a first electrical signal, the second node further including a second device for demodulating first information from the first electrical signal modulated on the first optical signal, the second node further including a third device for modulating second information on a second electrical signal, and the second node further including a fourth

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device for converting the second information modulated on the second electrical signal into a second optical signal at the first frequency (column 18, lines 11-54).

Regarding claim 12, Izumi further teaches a network includes a closed loop optical fiber, one of the first-mentioned nodes and at least one of the other nodes coupled to the closed loop optical fiber (fig. 1C).

Regarding claims 13, Izumi further teaches a network includes two closed loop optical fibers for carrying the first optical signal in opposite directions, each node being coupled to both optical fibers (fig. 1C).

Regarding claim 14, Izumi further teaches that the two closed loop optical fiber also carry the third optical signal in the two opposite directions (fig. 3).

Regarding claims 15-16, Izumi further teaches that the fiber optic network includes a closed loop optical fiber, one of the first-mentioned nodes and at least one of the other nodes coupled to the closed optical fiber (fig. 1C).

Regarding claim 25, Izumi discloses a node (fig. 21) for processing east-west optical signal (fig. 21, signal from transmission line 301 to transmission line 302) and west-east optical signal (fig. 21, signal from 304 to 303) in a fiber optical communication network (fig. 1C), the node comprising: a first optical block (fig. 21, combination of elements 325, 315, 360, and 340, and related elements; and fig. 7, the detailed structure of a monitoring and controlling apparatus) adapted to receive control information included within upstream east-west optical signal (fig. 21, supervisory signal from transmission line 301) at a first frequency and transmit control information within downstream east-west optical signal (fig. 21, supervisory signal to transmission line

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302) at the first frequency; a second optical block (fig. 21, combination of elements 326, 316, 391, and 341, and related elements) adapted to receive control information included within upstream west-east optical signal (fig. 21, the supervisory signal from transmission line 304) at a first frequency and transmit control information within downstream east-west optical (fig. 21, the supervisory signal to transmission line 303) signal at the first frequency; and a control device (fig. 21, monitoring and controlling signal transmitting and receiving circuit 315 and 316), for processing control information received by each of the first and second optical block and providing within a second information of each of the first and second optical block control information adapted for use by another node (column 18, lines 11-54). Izumi differs from the claimed invention in that Izumi does not specifically teach to combine channels of the first upstream optical signal with the channels of the first down stream optical signal to provide at least one valid copy of each channel in response to a fault that results in disruption of the control information. However, as it is admitted by Applicant, it is well known in the art to combine signals from different optical paths onto a common path "using his/her knowledge of SONET UPSR" (the instant specification, page 15, lines 13-18; and Remarks filed on May 23, 2006). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the signal combination method, as it is admitted by Applicant, in the system of Izumi in order to provide path protection. The modified system of Izumi and APA does not specifically disclose that the control device selects optical signal path based on a relative quality of the optical signals. However, it is well known in the art to select signal

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path based on signal quality. For example, Sato discloses to select the signal path having better signal quality (column 5, lines 1-5). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to select optical signal path based on a relative quality of the optical signals, as it is taught by Sato, in the modified system of Izumi and APA in order to provide high quality services.

3. Claims 2-5, 7-8, and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izumi (U.S. Patent US 6,466,348 B1) in view of Admitted Prior Art (page 15, lines 15-18) (APA) and Sato (U.S. Patent US 5,491,686) and further in view of Darcie (U.S. Patent US 4,701,904).

Regarding claims 2-5, 7-8, and 10-11, Izumi further discloses to drop and add optical signals at more different wavelengths (figs. 4-6). The system of Izumi, APA, and Sato differs from the claimed invention in that Izumi, APA, and Sato do not specifically teach the specific optical-to-electrical conversion devices, signal demodulation device for optical receivers and signal modulation devices and electrical-to-optical conversion devices for optical transmitters. However, the specific configurations of optical receivers and transmitters are well known in the art. For example, Darcie discloses exemplary optical receiver (fig. 6) and optical transmitter (fig. 3). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the optical receivers and transmitters disclosed by Darcie into the modified system of Izumi, APA, and Sato in order to extract information from a dropping optical signal and provide information to an adding optical signal at a node in the network.



***Response to Arguments***

4. Applicant's arguments filed January 3, 2007 have been fully considered but they are not persuasive.

As it is admitted by the Applicant, "Izumi's fig. 21 shows components such as an optical demultiplexer 325, add/drop module 360 and optical multiplexer 340, which are common optical components that are also used in Applicants' invention". Applicant argues that "Izumi's components are arranged differently compared to those in Applicants' claims 1 and 9 because Izumi's components are used for a different purpose." However, each of Applicant's claims 1 and 9 claims a node "comprising" various components. Applicant's claims 1 and 9 do not reveal any particular arrangement of the "common optical components that are also used in Applicants' invention".

Applicant argues that Izumi does not teach the first and second devices in Applicant's claims 1 and 9. Examiner respectfully disagrees with the Applicant. Because Izumi's 315 accepts a first upstream optical signal at a first frequency (SV) and uses the signal for "monitoring and controlling" the system, therefore, Izumi's 315 inherently comprises the claimed first and second devices. In fact, a detailed structure of a "monitoring and controlling apparatus" shown in Izumi's prior art fig. 7 clearly and explicitly shows that a first device (fig. 7, 183) converts the optical signal into a electrical signal and a second device (fig. 7, 188) demodulates the electrical signal.

It is clear that the combination of the cited references discloses each and every claimed limitation, therefore, the rejections of claims 1-16 and 21-25 still stand.

***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

qzw  
2/6/2007

  
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